CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/BAP/15	**Course name:** Advanced Practical from Coordination and Bioinorganic Chemistry

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 27

A	B	C	D	E	FX
66.67	22.22	11.11	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Vargová, Ph.D., prof. RNDr. Vladimír Zeleňák, DrSc., RNDr. Miroslav Almáši, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/ AFS/05	**Course name:** Ancient Philosophy and Present Times

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 31

A	B	C	D	E	FX
80.65	6.45	6.45	0.0	6.45	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 12.02.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BACH1/03	**Course name:** Bioanalytical Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Written test
Oral examination

Learning outcomes:
Theoretical knowledge and practical experience regarding application of analytical chemistry and analytical methods to laboratory medicine.

Brief outline of the course:
Introduction to Bioanalytical Chemistry, biological samples classification. Factors affecting analytes in biological samples. Collection, transport and storage of biological samples. Selected procedures of sample pretreatment Control and management of quality in clinical laboratory. Enzymes in bioanalysis. Mechanism of enzyme catalysis. Enzymes like analytes and analytical reagents. Moderators of enzyme activity. Introduction to Immunochemical methods, Precipitation and Aglutination methods. Immunodiffusional methods. Radioimmunoanalytic methods (RIA). Nonisotopic methods (EIA, ELISA, LIA, FIA). Investigative procedures in medical microbiology. Principles miniaturization of analytical procedures in clinical chemistry, microchips, nanochips, sensors and biosensors.

Recommended literature:
1. Mikkelsen, S. R., Cortón, E.: Bioanalytical Chemistry, Wiley, 2004.
2. Wilson, I.: Bioanalytical Separations 4, (Handbook of Analytical Separations), Elsevier, 2003.
3. Suelter, C. H., Kricka, L. J.: Methods of Biochemical Analysis, Vol.37, Bioanalytical Instrumentation, Wiley, 1994.
4. Rodriguez-Diaz, R., Wehr, T., Tuck, S.: Analytical Techniques for Biopharmaceutical Development, Marcell Dekker, 2005.

Course language:

Notes:

Course assessment
Total number of assessed students: 93

A	B	C	D	E	FX
33.33	37.63	18.28	9.68	1.08	0.0

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BCM/04	**Course name:** Biochemistry of Microorganisms

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
2 tests
test

Learning outcomes:
The aim of biochemistry of microorgamism teaching is to acquire knowledge in the field of microorganisms.

Brief outline of the course:
Structure and physiology of microorganisms; microbial nutrition, growth and control; microbial molecular biology and genetics; medical microbiology; immunology and applied microbiology; microbial diseases and their control.

Recommended literature:
McCall D., Stock D., Achrey P., Introduction to Microbiology, Blackwell Science, USA, 2001
Willey, J.M., Sherwood L.M., Woolverton C.J., Prescott, Harley, and Klein´s Microbiology, McGraw-Hill Int. Ed., USA, 2008
Black J.G., Microbiology, John Wiley and Sons, USA, 2008

Course language:

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
51.27	24.05	17.09	6.96	0.63	0.0

Provides: doc. RNDr. Mária Kožurková, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BAC1/04	**Course name:** Bioinorganic Chemistry I

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Test or seminar works
examination

Learning outcomes:
The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment.

Brief outline of the course:
Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization.Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life.

Recommended literature:
1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006.
2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998.
3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997.

Course language:

Notes:

Course assessment
Total number of assessed students: 272

A	B	C	D	E	FX
41.54	27.57	19.12	5.15	6.25	0.37

Provides: doc. RNDr. Zuzana Vargová, Ph.D.

Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BAC2/05	**Course name:** Bioinorganic Chemistry II

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: ÚCHV/BAC1/04

Conditions for course completion:

Learning outcomes:
Goal of the course is to provide the students with a knowledge of biocoordination compounds and their physicochemical properties, biological efficiency of some coordination compounds with transition elements (Zn, Fe, Co, Mn, Cu).

Brief outline of the course:
Goal of the course is to provide the students with a knowledge of biocoordination compounds and their physicochemical properties, biological efficiency of some coordination compounds with transition elements (Zn, Fe, Co, Mn, Cu).

Recommended literature:
Kendrick J. M., May M. T., Plishka M. J., Robinson K. D.: Metals in biological systems, Ellis Horwood, New York,1992.
Kaim, W., Schwederski, B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life, John Wiley and Sons, Chichester 1994.

Course language:

Notes:

Course assessment
Total number of assessed students: 27

A	B	C	D	E	FX
74.07	7.41	18.52	0.0	0.0	0.0

Provides: prof. RNDr. Katarína Györyová, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/BAC3/04	**Course name:** Bioinorganic Chemistry III

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/BAC2/05

Conditions for course completion:
Test.

Learning outcomes:
To make the acquaintance of actual status and selected topics of the research in bioinorganic chemistry.

Brief outline of the course:
Singlet and triplet dioxygen and organisms. Oxygen atom transfer reactions. Dioxygen radical generating systems. Inorganic compounds as the analogues of the active sites of the metalloproteins. Construction of Small molecule enzyme mimics as drugs (SOD mimics). Metals in medical applications (the use of chelating agents, metal based chemotherapeutic drugs, metallodrugs as diagnostic agents, metals as biomaterials). Physical methods.

Recommended literature:
1. Kaim, W., Schwederski, B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life, John Wiley and Sons, Chichester 1994.
2. Wilkins P.C., Wilkins R.G.: Inorganic Chemistry in Biology. Oxford Science Publications, Oxford 1997.
3. Kendrick M.J. a kol.: Metals in biological systems, Ellis Horwood Limited, Chichester, England, 1992
4. Helsen, J.A. Breme H.J.: Metals as biomaterials, Wiley, Chichester, England, 1998.

Course language:

Notes:

Course assessment
Total number of assessed students: 21

A	B	C	D	E	FX
61.9	19.05	19.05	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Vargová, Ph.D.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/BACM/14	**Course name:** Bioinorganic Chemistry and Toxicology

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/BAC3/04 and ÚCHV/TOX1/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 2

A	B	C	D	E	FX
50.0	50.0	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BOC/03	**Course name:** Bioorganic chemistry

Course type, scope and the method:
Course type: Lecture
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Examinationn

Learning outcomes:
Explanation of fundamental principles for the construction of bioorganic molecular models of biochemical precesses using the tools of organic chemistry.

Brief outline of the course:
1. Introduction: Basic consideration, proximity effects in biochemistry, Molecular adaptation, Molecular recognition at the supramolecular level.
2. Bioorganic Chemistry of amino acids and polypeptides: Chemistry of the living cells, Analogy between organic reactions and biochemical tranformations, Chemistry of the peptide bond, Nonribosomal peptide formation, Asymmetric synthesis od amino acids, Asymmetric synthesis with chiral organometalic catalysts, Transition state analogs, Antibodies as enzymes, Chemical mutations, Molecular recognition and Drug design.
3. Bioorganic Chemistry of the Phosphate groups and polynucleotides: Energy storage, DNA intercalates, RNA molecules as catalysts.
4. Enzyme Chemistry: Introduction to catalysis and enzymes, Multifuntional catalysis and Simple models, alfa-Chymotrypsin, Other hydrolytic enzymes, Strereoelectronic control in hydrolytic reactions, Immobilized enzymes, Enzymes in synthetic organic chemistry, Enzyme-Analog-Built polymers, Design of molecular clefts.
5. Enzyme Models: Host-Guest complexation chemistry, New development in crown ether chemistry, Membrane chemistry and micelles, Polymers, Cyclodextrins, Enzyme design using steroid template, Remote functionalisation reactions, Polyene biomimetic cyclisations.
6. Metal Ions: Metal ions in proteins and biological molecules, Carbopeptidase A, Hydrolysis of amino acid esters and peptides, Iron and oxygen transport, Cooper ion, Cobalt and vitamin B12 action, Oxidoreduction, Pyridoxal phosphate, Biotin.

Recommended literature:
Voet J. : Biochemistry, Springer Verlag, 1998
Dugas H.: Bioorganic Chemistry, Springer Verlag, 1999.

Course language:

Notes:

Course assessment
Total number of assessed students: 157

A	B	C	D	E	FX
82.8	5.1	7.01	3.82	1.27	0.0

Provides: prof. RNDr. Jozef Gonda, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/KDF/05	**Course name:** Chapters from History of Philosophy of 19th and 20th Centuries (General Introduction)

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 10

A	B	C	D	E	FX
50.0	20.0	10.0	0.0	10.0	10.0

Provides: doc. PhDr. Pavol Tholt, PhD., mim. prof.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CHE2/03	**Course name:** Chemical Excursion

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 1t
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2., 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 88

A	B	C	D	E	FX
94.32	5.68	0.0	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Vargová, Ph.D.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ TOX1/03	**Course name:** Chemical Toxicology

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Goal of the course is to provide the students with a knowledge of toxic substances and their toxic effect, interactions between chemicals and biological systems.

Brief outline of the course:
Historical aspects, types of toxic substances, dose-response relationship. Disposition of toxic compounds (absorption, distribution, excretion, metabolism of toxic compounds, factors affecting toxic responses). Types of exposure and response. Drugs as toxic substances. Industrial toxicology. Food additives and contaminants. Pesticides. Environmental pollutants. Natural products. Risk and safety practices with chemical substances, designation of substances in accordance of norm of European Union and order of Government of Slovak Republic.

Recommended literature:
J. A. Timbrell: Introduction to Toxicology, Taylor and Francis, London 1989
V. E. Forbes, T. L. Forbes: Toxicology in Theory and Practice, Chapmane Hall, London 1994
H. M. Stahr: Analytical Methods in Toxicology, John Wiley & Sons, New York 1991

Course language:

Notes:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
28.89	28.89	24.44	11.11	2.22	4.44

Provides: prof. RNDr. Katarína Györyová, DrSc., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/CMG/03	**Course name:** Chemical management

Course type, scope and the method:
Course type: Lecture
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
The main goal is thorough the lectures of top managers from slovak chemical companies ilustrate the basic principles of production management, marketing, strategy building in chemical and pharmaceutical industry.

Brief outline of the course:
Basic processes connected to industry manufacturing and management of chemical production in Slovak chemical companies

Recommended literature:
Internal sources

Course language:

Notes:

Course assessment
Total number of assessed students: 170

A	B	C	D	E	FX
54.12	44.71	1.18	0.0	0.0	0.0

Provides: RNDr. Ján Elečko, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CNM/15	**Course name:** Chemistry of nanomaterials

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1., 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 28

A	B	C	D	E	FX	N	P
71.43	14.29	7.14	0.0	0.0	0.0	0.0	7.14

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ RP/14	**Course name:** Class Project
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 6	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 146	

abs	n
98.63	1.37

Provides:
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/KK/07	**Course name:** Communication and Cooperation
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 281

abs	n	z
98.22	1.78	0.0

Provides: Mgr. Ondrej Kalina, PhD., Mgr. Lucia Hricová, PhD.
Date of last modification: 04.09.2019
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/VMS1/03	**Course name:** Computing Methods in X-Ray Structure Analysis

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: ÚCHV/STA1/03

Conditions for course completion:
Semester project.

Learning outcomes:
Crystal structure analysis of simple samples, tabular and graphical processing of the results.

Brief outline of the course:
Practical course of crystal structures solution for substances with the number of atoms less than 1000 since data processing to publishing structures: selection of the right space group and generate the necessary files for the structure solution (Wingx); search for the model of the structure (SHELX, SIR and SUPERFLIP), refinement of the model (SHELX); graphical representation of the structure (DIAMOND); drawing of the structural scheme (ISIS DRAW); calculations of bond lengths, angles and hydrogen bonds (PARST); tabulation of the results of crystal structure analysis, obtaining the necessary data for similar structures from the Cambridge Structural Database System. Processing of results of powder diffraction technique, modeling of powder diffraction patterns (MERCURY).

Recommended literature:
Manuals for the programs.

Course language:
Slovak and English

Notes:

Course assessment
Total number of assessed students: 57

A	B	C	D	E	FX
80.7	10.53	3.51	5.26	0.0	0.0

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 25.03.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/KCH/14	**Course name:** Coordination Chemistry

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/KCH1/00 and ÚCHV/VES/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 28

A	B	C	D	E	FX
64.29	28.57	3.57	0.0	3.57	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ KCH1/00	**Course name:** Coordination Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
The student aquires knowledge on the coordination compounds, preparation, isomerism and properties of coordination compounds as well as about the chemical bonding in coordination compounds.

Brief outline of the course:
Definition and nomenclature of coordination compounds. Central atom and ligands, coordination numbers. Isomerism, preparation and stability of coordination compounds, chemical bonding in coordination compounds.

Recommended literature:
J. Ribas: Coordination Chemistry, Wiley-VCH, Weinheim, 2008.
J. C. Huheey, E. A. Keiter, R. L. Keiter: Inorganic Chemistry, Haper Collins, New York, 1993.
G. A. Lawrance: Introduction to Coordination Chemistry, Wiley, 2010.

Course language:

Notes:

Course assessment
Total number of assessed students: 105

A	B	C	D	E	FX
55.24	17.14	13.33	7.62	6.67	0.0

Provides: prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Juraj Kuchár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ DPO/14	**Course name:** Diploma Thesis and its Defence

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 20

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 140

A	B	C	D	E	FX
65.71	25.0	5.71	2.14	1.43	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ EMDP/03	**Course name:** Experimental Methods to Master´s Thesis

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 6 **Per study period:** 84
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 368

A	B	C	D	E	FX
94.29	3.8	0.54	0.54	0.82	0.0

Provides: RNDr. Martin Vavra, PhD., doc. RNDr. Peter Pristaš, CSc., doc. RNDr. Peter Javorský, DrSc., doc. RNDr. Ján Imrich, CSc., doc. RNDr. Mária Kožurková, CSc., prof. Ing. Marián Antalík, DrSc., prof. RNDr. Juraj Černák, DrSc., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Jozef Gonda, DrSc., prof. RNDr. Andrej Oriňak, PhD., doc. RNDr. Zuzana Vargová, Ph.D., doc. RNDr. Taťána Gondová, CSc., doc. RNDr. Miroslava Martinková, PhD., prof. RNDr. Renáta Oriňaková, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Erik Sedlák, PhD., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Viktor Víglaský, PhD., doc. RNDr. Katarína Reiffová, PhD., RNDr. Miroslava Matiková-Maľarová, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Nataša Tomášková, PhD., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Dušan Koščík, CSc., RNDr. Daniela Kladeková, CSc., RNDr. Slávka Hamuľaková, PhD., RNDr. Rastislav Varhač, PhD., RNDr. Danica Sabolová, PhD., RNDr. Zuzana Kudličková, PhD., RNDr. Lívia Kocúrová, PhD., prof. Mgr. Vasiľ Andruch, DSc., prof. Dr. Yaroslav Bazeľ, DrSc., RNDr. Ladislav Janovec, PhD., doc. Ing. Viera Vojteková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/DF2p/03	**Course name:** History of Philosophy 2 (General Introduction)

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 739

A	B	C	D	E	FX
60.89	13.8	12.58	8.66	3.38	0.68

Provides: doc. PhDr. Pavol Tholt, PhD., mim. prof., Doc. PhDr. Peter Nezník, CSc., PhDr. Katarína Mayerová, PhD., doc. Mgr. Róbert Stojka, PhD.

Date of last modification: 25.03.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/HGS/15	**Course name:** Host-Guest and Supramolecular Systems

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Clathate, inclusion compound, supramolecular systems. Water clathates, clathrates of urea and thiourea, Hofmann type clathates and its analogs, Werner-type clathtaes, calixarenes, crown-ethers, cryptates, possibilities of their practical use. From molecular to supramolecular chemistry, types and importance of weak interactions in supramolecular chemistry, crystal engineering.

Recommended literature:
Beer P.D., Gale P.A., Smith D.K.: Supramolecular Chemistry, Oxford University Press, Oxford, 2003.

Course language:

Notes:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
77.78	11.11	11.11	0.0	0.0	0.0

Provides: RNDr. Martin Vavra, PhD., prof. RNDr. Juraj Černák, DrSc., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/IH2/03	**Course name:** Idea Humanitas 2 (General Introduction)

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 8

A	B	C	D	E	FX
87.5	12.5	0.0	0.0	0.0	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 12.02.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/AKO/15	**Course name:** Inorganic Polymers, Clusters and Organometallics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2., 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogenic glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicates. Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymeric cyanocomplexes.
Cluster compounds, metal-metal bonding in clusters, intersticial atoms.
Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.

Recommended literature:
Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Haiduc I., Zuckerman J.J.: Basic Organometallic Chemistry, W. de Gruyter, Berlin, N.Y. 1985.
Gupta, B.D., Elias, A.J.: Basic Organometallic Chemistry, CRC Press, Taylor and Francis group, Hyderabad (India), 2010.
Chandrasekhar, V.: Inorganic and Organometallic Polymers, Springer, Berlin, 2005.
Archer, R.D.: Inorganic and Organometallic Polymers, Wiley, New York, 2001.
Greenwood, N.N., Earnshaw, A.: Chemie prvku I a II, Informatorium, Praha, 1993

Course language:

Notes:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
18.18	18.18	0.0	45.45	18.18	0.0

Provides: RNDr. Martin Vavra, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ AKO/03	**Course name:** Inorganic Polymers, Clusters and Organometallics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogenic glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicates. Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymeric cyanocomplexes.
Cluster compounds, metal-metal bonding in clusters, intersticial atoms.
Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.

Recommended literature:
Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Haiduc I., Zuckerman J.J.: Basic Organometallic Chemistry, W. de Gruyter, Berlin, N.Y. 1985.

Course language:

Notes:

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX
56.82	20.45	13.64	6.82	2.27	0.0

Provides: RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ MAG/03	**Course name:** Magnetochemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
exam

Learning outcomes:
Introduction to the basic interactions in the electron subsystem of insulators, demonstration of the correlations between the structure and magnetic properties. Students will learn the basic standard methods used in the analysis of thermodynamic data (specific heat, susceptibility, magnetization) and EPR, since the study of magnetic properties yield an important information about the structure of material especially at low temperatures.

Brief outline of the course:
Bohr model of atom. Hydrogen atom. Paramagnetic and diamagnetic atoms. Atom in magnetic field. Specific heat, susceptibility, magnetization and electron paramagnetic resonance (EPR) in the paramagnets. Atom in the crystal field. Spin Hamiltonian. Thermodynamics and EPR of paramagnetic atoms in the crystal field. Exchange and dipole interaction. Heisenberg Hamiltonian. Magnetic dimer. Long-range and short- range order. Low-dimensional magnets. Spatial anisotropy of exchange coupling. Exchange anisotropy. Heisenber, Ising and XY model.

Recommended literature:
1. R.L. Carlin, A.J. Duyneveldt: Magnetic properties of transition
metal compounds. New York, inc. Springer Verlag, 1977.
2. A.P.P. Lever: Inorganic electronic spectroscopy, Elsevier, Amsterdam, 1987.

Course language:

Notes:

Course assessment
Total number of assessed students: 23

A	B	C	D	E	FX
43.48	26.09	13.04	17.39	0.0	0.0

Provides: doc. RNDr. Alžbeta Orendáčová, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ MAB/15	**Course name:** Mechanisms of Inorganic Reactions

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
two written tests

Learning outcomes:
Basic knowledges about inorganic reaction mechanisms and its application, mainly in some new technological proceses.

Brief outline of the course:
Introduction of inorganic reaction mechanisms. Relationship between mechanism and structure of reactants. Classification of reaction mechanism. Kinetic of reactions and mechanism. Inclusion compounds, intercalates. Mechanism of photochemical reactions, photochromical reactions and its application. Electrochromism, electrochromic materials and its application. Photovoltaic systems. Homogeneous and heterogeneous catalysis mechanism. Mechanisms of reactions of coordination and biocoordination compounds.

Recommended literature:
1. Housecroft C.E., Sharpe A.G.: Inorganic Chemistry. Pearson Education Limited, Harlow 2005.
2. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Armstrong F.A.: Inorganic Chemistry. Oxford University Press, Oxford 2006.
3. Tobe M.L.: Inorganic Chemistry-Reaction Mechanism in Inorganic Chemistry. vol.9.Butterworths, London 1974.

Course language:

Notes:

Course assessment
Total number of assessed students: 14

A	B	C	D	E	FX
57.14	7.14	28.57	7.14	0.0	0.0

Provides: doc. RNDr. Zuzana Vargová, Ph.D.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FMCH/04	**Course name:** Medicinal chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Two tests at seminars, Written exam

Learning outcomes:
Explanation of basic principles in the research and development of chemical drugs, understanding of structure-activity relationships including space structure and chirality and their consequences on chemical and physico-chemical properties influencing biological activity. Gaining knowledge of the present state in the field of selected important groups of drugs, such as antibacterial, antiviral or antitumor drugs.

Brief outline of the course:
Introduction, classification of drugs, factors influencing design and activity of drugs of the third generation, drug chirality, search for new drugs, structure-activity relationships, chemotherapeutics of central, peripheral and vegetative nervous system, antibacterial, antitumor and antiviral compounds, antitussives and expectorants, disinfectants.

Recommended literature:
1. Medicinal Chemistry: Principles and Practice, King F. D., Ed., The Royal Society of Chemistry, Thomas Graham House, Cambridge, 1994.
2. Advances in Drug Discovery Techniques: Harvey A. L., Ed., Wiley & Sons, Chichester, 1998.
3. Gareth T.: Medicinal Chemistry: An introduction. John Willey & Sons, 2000.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 114

A	B	C	D	E	FX
58.77	20.18	14.91	3.51	1.75	0.88

Provides: RNDr. Mariana Budovská, PhD., RNDr. Zuzana Kudličková, PhD.

Date of last modification: 24.01.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ JCH1/04	**Course name:** Nuclear Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Presentation.
Examination.

Learning outcomes:
To explain a basic of radioactivity and nuclear reactions.
The course is to provide the students with a knowledge of preparation of the radionuclides and its use in the technical practise, to give the survey of biological effects of nuclear radiation.

Brief outline of the course:
Fundamentals of nuclear chemistry. Elementary particles. Nuclear core. Nuclides and isotopes. Radioactivity and radioactive disintegration kinetics. Radioactive disintegration. Decay law. Half life period. Units of radioactivity. Nuclear reactions. Sources of nuclear radiation. Detection and registration of radiation. Nuclear chemical technology. Radioactive analytical methods. Isotopic dilution method, activation analysis. Biological effects of the nuclear radiation. Nuclear medicine. Nuclear power station.

Recommended literature:
G. R. Choppin, J. Rydberg: Nuclear Chemistry, Theory and Applications, Pergamon Press, 1980.
G. R. Choppin, J. O. Liljenzin, J. Rydberg: Radiochemistry and Nuclear Chemistry, 3rd edition, Woburn, USA, Butterworth-Heinemann, 2002.
W. D. Ehmann, D. E. Vance: Radiochemistry and Nuclear Methods of Analysis, Wiley, New York, 1991.
A. Vértes, I. Kiss: Nuclear Chemistry, Elsevier, 1987.

Course language:

Notes:

Course assessment
Total number of assessed students: 51

A	B	C	D	E	FX
41.18	27.45	17.65	7.84	3.92	1.96

Provides: RNDr. Andrea Morovská Turoňová, PhD., RNDr. František Kaľavský
Date of last modification: 25.03.2020
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/OP/14	**Course name:** Odborná prax
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 2t **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 1., 3.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 5

abs	n
100.0	0.0

Provides: doc. RNDr. Zuzana Vargová, Ph.D.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/OS/03	**Course name:** Organic synthesis

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Midterm exam.
Presentation of a multistep synthesis.
Final written exam.

Learning outcomes:
The aim is to become familiar with the most important methods for the synthesis of organic compounds, their combination and application in the synthesis of complex molecules.

Brief outline of the course:
Retrosynthetic analysis of organic compounds and synthesis planning. Building of a carbon backbone using organometallic compounds and enolates. Reactions resulting in creation of multiple bonds. Synthesis of cyclic molecules. Functional group manipulation using oxidations, reductions and substitutions. Protecting groups and special synthetic techniques. Synthesis of complex molecules and natural products.

Recommended literature:
Carruthers W., Coldham I.: Modern Methods of Organic Synthesis, Fourth Edition, Cambridge University Press, 2005..
3. Hanson, J. R.: Organic Synthetic Methods, The Royal Society of Chemistry 2002.

Course language:

Notes:

Course assessment
Total number of assessed students: 166

A	B	C	D	E	FX
53.01	30.12	11.45	3.01	2.41	0.0

Provides: RNDr. Martin Walko, PhD.

Date of last modification: 07.02.2020

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: Dek. PF UPJŠ/PPZ/13	**Course name:** Personality Development and Key Competences for Success on a Labour Market

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 14s
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1., 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 39

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Provides: RNDr. Peter Stefányi, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ FAK1a/07	**Course name:** Pharmacology I
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 2 / 2 **Per study period:** 28 / 28 **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 1.	
Course level: II.	
Prerequisities: ÚCHV/FMCH/04	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides: prof. MVDr. Ján Mojžiš, DrSc.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/FAK1b/07	**Course name:** Pharmacology II

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities: ÚCHV/FAK1a/07

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
0.0	11.11	33.33	11.11	44.44	0.0

Provides: prof. MVDr. Ján Mojžiš, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ADP/03	**Course name:** Porous materials and their applications

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: I., II., III.

Prerequisities:

Conditions for course completion:
Written test in the middle and the end of the semester.

Learning outcomes:
To make the acquaintance of various types of advanced porous solids and basic methods for their investigation. To gen up the students with the methods used in characterisation of specific surface area and pore size of different types of porous materials.

Brief outline of the course:
Terminology and principal terms associated with powders, porous solids and adsorption. Methodology of adsorption at the gas-solid interface, liquid-solid interface. Assessment of surface area and porosity. Inorganic materials (active carbon, metal oxides, zeolites, clay minerals, new advanced materials) and phenomenon of adsorption. Application in the industry and everyday life.

Recommended literature:
1. F. Rouquerol, J. Rouquerol, K. Sing: Adsorption by powders and porous solids, Academic press, London, UK, 1999
2. S. J. Gregg, K.S.W. Sing: Adsorption, surface area and porosity, Academic Press, London,, UK, 1982.
3. V. Zeleňák: Adsorption and porosity of solid substances, internal study text, PF UPJŠ, 2007.

Course language:

Notes:

Course assessment
Total number of assessed students: 87

A	B	C	D	E	FX	N	P
78.16	10.34	2.3	0.0	0.0	0.0	0.0	9.2

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PPZMg/12	**Course name:** Psychology and Health Psychology (Master´s Study)

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 2 **Per study period:** 14 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 226

A	B	C	D	E	FX
19.47	25.22	25.66	13.27	15.93	0.44

Provides: PhDr. Anna Janovská, PhD., Mgr. Lucia Hricová, PhD.

Date of last modification: 07.03.2018

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ KOC1/01	**Course name:** Quantum Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Activity within practice will be evaluated. Two written tests will be realized in 7-th and 14-th week, resp. during the term of the course.
The examination will consist of written and verbal test. Continuous evaluation will be also taken into account.

Learning outcomes:
Students will intensify their knowledge in the field of valence-bond based on molecular orbital theory (MO) and self-reliant perform basic quantum chemical calculations (molecular geometry optimization, transition states, vibrational analysis, etc.).

Brief outline of the course:
Development of valence-bond theory. Time-independent Schrodinger equation. Basic approximations in molecular orbital valence-bond theory. Variant methods of calculation in the framework of molecular orbital valence-bond theory. Chemical reactivity. Potential energy hypersurfaces of molecules. Reaction coordinate. Calculation of the absolute and relative equilibrium and rate constants, resp. in gas phase. Solvatation energy calculation.

Recommended literature:
1. Jensen F.: Introduction to Computational Chemistry, Wiley,2000.
2. Leach A. R.: Molecular Modelling, Addison Wesley Longman Ltd. 1998.
3. Náray-Szabó G., Surján P. R., Ángyán J. G.: Applied Quantum Chemistry, Akadémia Kiadó, Budapest, 1987.

Course language:
slovak language and english language

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
81.25	15.63	3.13	0.0	0.0	0.0

Provides: RNDr. Ladislav Janovec, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ ÚTVŠ/CM/13	**Course name:** Seaside Aerobic Exercise

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 36s
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance

Learning outcomes:
Learning outcomes:
Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.

Brief outline of the course:
Brief outline of the course:
1. Basics of seaside aerobics
2. Morning exercises
3. Pilates and its application in seaside conditions
4. Exercises for the spine
5. Yoga basics
6. Sport as a part of leisure time
7. Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly)
8. Application of seaside cultural and art-oriented activities in leisure time

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 42

abs	n
11.9	88.1

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.
Date of last modification: 15.03.2019
Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VKA/04	**Course name:** Selected Topics in Inorganic Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To make the acquaintance of actual status of research in inorganic chemistry.

Brief outline of the course:
Cu-Zn heterobimetallic compounds: preparation, structure and properties.
Biological and physicochemical properties of some zinc komplex compounds with bioactive ligands.
Pentacoordinated Copper(II) compounds: a trigonal bipyramid or a tetragonal pyramid?
Structure, spectral and thermal properties of cyanoargentates.
Hydrothermal synthesis in inorganic chemistry.
Materials on the basis of inclusion compounds, their structure, properties and application.

Recommended literature:
1. Greenwood, N.N., Earnshaw, A.: Chemistry of the elements I and II, Pergamon Press N.Y., 1993
2. J. E. Huheey, E.A. Keiter, R.L. Keiter: Inorganic Chemistry: Principles of Structure and Reactivity (4th Edition, Addison-Wesley Pub Co, 4th edition,1997

Course language:

Notes:

Course assessment
Total number of assessed students: 223

A	B	C	D	E	FX
44.39	26.91	17.04	7.17	4.48	0.0

Provides: RNDr. Martin Vavra, PhD., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/SP1/14	**Course name:** Semestral Project I

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 148

abs	n
99.32	0.68

Provides: RNDr. Rastislav Serbin, PhD., doc. RNDr. Mária Kožurková, CSc., prof. Dr. Yaroslav Bazeľ, DrSc., prof. RNDr. Jozef Gonda, DrSc., prof. RNDr. Katarína Györyová, DrSc., doc. RNDr. Ján Imrich, CSc., doc. RNDr. Miroslava Martinková, PhD., doc. RNDr. Erik Sedlák, PhD., RNDr. Nataša Tomášková, PhD., doc. RNDr. Viktor Víglaský, PhD., RNDr. Rastislav Varhač, PhD., RNDr. Danica Sabolová, PhD., RNDr. Jana Šandrejová, PhD., RNDr. Miroslav Almáši, PhD., doc. RNDr. Ivan Potočňák, PhD., prof. RNDr. Juraj Černák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ SP2/14	**Course name:** Semestral Project II
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 6	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment

Total number of assessed students: 100

abs	n
100.0	0.0

Provides: RNDr. Rastislav Serbin, PhD., doc. RNDr. Mária Kožurková, CSc., prof. Mgr. Vasiľ Andruch, DSc., prof. Ing. Marián Antalík, DrSc., prof. Dr. Yaroslav Bazeľ, DrSc., doc. RNDr. Erik Sedlák, PhD., doc. RNDr. Miroslava Martinková, PhD., doc. RNDr. Andrea Straková Fedorková, PhD., RNDr. Monika Tvrdoňová, PhD., doc. RNDr. Mária Ganajová, CSc., RNDr. Martin Vavra, PhD., prof. RNDr. Jozef Gonda, DrSc., doc. Ing. Viera Vojteková, PhD., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ján Imrich, CSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Katarína Reiffová, PhD., RNDr. Nataša Tomášková, PhD., doc. RNDr. Viktor Víglaský, PhD., RNDr. Danica Sabolová, PhD., RNDr. Rastislav Varhač, PhD., doc. RNDr. Peter Pristaš, CSc., RNDr. Jana Šandrejová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ NPC1a/00	**Course name:** Seminar from Advanced Inorganic Chemistry

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 1 **Per study period:** 14
Course method: present

Number of ECTS credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To make the acquaintance of actual status of research in inorganic chemistry.

Brief outline of the course:
Selected topics from inorganic and coordination chemistry. Study of the scientific literature and publications. Elaboration of the chemical information.

Recommended literature:
Actual scientific papers and literature concerning the actual research topics in inorganic chemistry.
Shriver D.F. Shriver, Atkins P.W.: Inorganic Chemistry. Oxford University Press, Oxford 1999.

Course language:

Notes:

Course assessment
Total number of assessed students: 63

A	B	C	D	E	FX
77.78	15.87	6.35	0.0	0.0	0.0

Provides: RNDr. Martin Vavra, PhD., prof. RNDr. Juraj Černák, DrSc., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Zuzana Vargová, Ph.D., doc. RNDr. Mária Reháková, CSc., RNDr. Miroslav Almáši, PhD., RNDr. Miroslava Matiková-Maľarová, PhD., doc. RNDr. Juraj Kuchár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ NPC2/02	**Course name:** Seminar from Advanced Inorganic Chemistry

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 1 **Per study period:** 14
Course method: present

Number of ECTS credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To make the acquaintance of actual status of research in inorganic chemistry.

Brief outline of the course:
Selected topics from inorganic and coordination chemistry. Study of the scientific literature and publications. Elaboration of the chemical information.

Recommended literature:
Actual scientific papers and literature concerning the actual research topics in inorganic chemistry.
Shriver D. F. Shriver, Atkins P. W.: Inorganic Chemistry. Oxford University Press, Oxford 1999.

Course language:

Notes:

Course assessment
Total number of assessed students: 70

A	B	C	D	E	FX
88.57	7.14	4.29	0.0	0.0	0.0

Provides: RNDr. Martin Vavra, PhD., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Miroslav Almáši, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SDP/03	**Course name:** Seminar to Diploma Thesis

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:
Consultations, discussions and presentations.
Assessment of student's work during the semester by supervisor.

Learning outcomes:
Teach the student to prepare presentation of his own results, critical acceptation of information, participate in scientific discussion and formal requirements of written diploma work.

Brief outline of the course:
Presentation of literature information and own experimental results, scientific discussions and writing of scientific text.

Recommended literature:
According to the field of diploma work.

Course language:

Notes:

Course assessment
Total number of assessed students: 302

A	B	C	D	E	FX
96.03	2.32	0.99	0.33	0.0	0.33

Provides: RNDr. Martin Vavra, PhD., doc. RNDr. Andrea Straková Fedorková, PhD., doc. RNDr. Mária Kožurková, CSc., prof. RNDr. Juraj Černák, DrSc., prof. RNDr. Katarína Györyová, DrSc., prof. Dr. Yaroslav Bazeľ, DrSc., prof. RNDr. Andrej Oriňak, PhD., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Taťána Gondová, CSc., doc. RNDr. Katarína Reiffová, PhD., doc. RNDr. Mária Reháková, CSc., prof. Mgr. Vasiľ Andruch, DSc., prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Miroslava Matiková-Maľarová, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Lívia Kocúrová, PhD.

Date of last modification: 20.09.2017

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/SPVKE/07	**Course name:** Social-Psychological Training of Coping with Critical Life Situations

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 126

abs	n	z
97.62	2.38	0.0

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 18.03.2019

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CTF1/00	**Course name:** Solid State Chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1., 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
The goal of the course is to provide students with basic knowledge on the fundamentals and significance of solid state and reaction in the solid state.
Historical development of solid state chemistry and its significance for technological progress. General fundamentals and important properties of solids: ideal and real crystals, deformation of crystals, diffusion in solids, Non-catalysed reactions involving solids: thermal decomposition, surface oxidation, reaction between solids, chemical dissolution. The influence of non-equilibrium defects on the reactivity of solids. Generation of defects by various methods of treatment: rapid quenching, doping, irradiation, mechanical activation and low temperature decomposition.

Recommended literature:
1. West A. R.: Basic Solid State Chemistry, J. Wiley, Chichester, 1999.
2. Tkáčová, K.: Mechanical Activation of Minerals. Elsevier, Amsterdam, 1989.

Course language:

Notes:

Course assessment
Total number of assessed students: 71

A	B	C	D	E	FX
54.93	28.17	14.08	1.41	1.41	0.0

Provides: RNDr. Martin Vavra, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ NPC3/02	**Course name:** Special Seminar

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 25

A	B	C	D	E	FX
76.0	20.0	0.0	4.0	0.0	0.0

Provides: RNDr. Martin Vavra, PhD., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Miroslav Almáši, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification:

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVa/11	**Course name:** Sports Activities I.
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 1.	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion: Conditions for course completion: Min. 80% of active participation in classes.	
Learning outcomes: Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
Brief outline of the course: Brief outline of the course: Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness. In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 12947

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.64	0.06	0.0	0.0	0.0	0.03	7.22	4.05

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 18.03.2019

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVb/11	**Course name:** Sports Activities II.
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion: Conditions for course completion: Final assessment and active participation in classes - min. 75%.	
Learning outcomes: Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
Brief outline of the course: Brief outline of the course: Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness. In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 11186

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.58	0.55	0.02	0.0	0.0	0.05	9.99	3.8

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 18.03.2019

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ TVc/11	**Course name:** Sports Activities III.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., I.II., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 7741

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.03	0.04	0.01	0.0	0.0	0.03	4.04	5.85

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ TVd/11	**Course name:** Sports Activities IV.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I., I.II., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 5086

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.19	0.29	0.04	0.0	0.0	0.0	6.78	7.69

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Lucia Kršňáková, PhD., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SAZ1/15	**Course name:** Stereochemistry of Inorganic Compounds

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1., 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Symmetry, elements of symmetry, point groups, symmetrical properties of orbitals and bonds. Principles of stereochemistry, VSEPR, configuration of molecules, polyhedra, regular and semiregular polyhedra. Valence shells with 4 –12 electron pairs, geometry of molecules and periodic system.

Recommended literature:
Kepert, D. L.: Inorganic Stereochemistry. Springer-Verlag, Berlin, 1982.
Kettle, S. F. A.: Symmetry and Structure. John Wiley & Sons, New York, 1985.

Course language:

Notes:

Course assessment
Total number of assessed students: 18

A	B	C	D	E	FX
50.0	16.67	22.22	11.11	0.0	0.0

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ STA1/03	**Course name:** Structure Analysis

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
2 written tests.
30 %
The final examination is in a written form. The final mark is based on the results from current and final tests.

Learning outcomes:
Students get an overview about the symmetry at the micro- and macrostructure level and about diffraction methods used for the crystal structure determination and they will learn how to use the results of the crystal structure analysis in their own work.

Brief outline of the course:
Macrostructure and microstructure symmetry, individual work with space groups. Theoretical basis of the diffraction experiment. Practical aspects of crystal structure solution. Processing the results of structural analysis. Theoretical basis, practical aspects and possibilities of X-ray powder diffraction analysis, its use at work of a chemist.

Recommended literature:
Massa, W.: Crystal structure determination, 2nd edition. Springer 2004.
Clegg, W. et al.: Crystal structure analysis. Principles and practice. Oxford University Press 2009.
Hahn, T.: International tables for crystallography, Vol. A. Kluwer Academic Publishers 2002.
Stout, G.H. & Jensen, L.H.: X-ray Structure Determination. Macmillan Publishing Co., Inc. 1968.
Klug, H.P. & Alexander, L.E.: X-Ray diffraction procedures for polycrystalline and amorphous materials. John Wiley & Sons, Inc. 1970.

Course language:
Slovak and English

Notes:

Course assessment
Total number of assessed students: 115

A	B	C	D	E	FX
26.96	16.52	26.96	20.0	8.7	0.87

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SVK1/00	**Course name:** Students Scientific Conference (Presentation)

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 238

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ LKSp/13	**Course name:** Summer Course-Rafting of TISA River
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 36s **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion: Conditions for course completion: Attendance Final assessment: Raft control on the waterway (attended/not attended)	
Learning outcomes: Learning outcomes: Students have knowledge of rafts (canoe) and their control on waterway.	
Brief outline of the course: Brief outline of the course: 1. Assessment of difficulty of waterways 2. Safety rules for rafting 3. Setting up a crew 4. Practical skills training using an empty canoe 5. Canoe lifting and carrying 6. Putting the canoe in the water without a shore contact 7. Getting in the canoe 8. Exiting the canoe 9. Taking the canoe out of the water 10. Steering a) The pry stroke (on fast waterways) b) The draw stroke 11. Capsizing 12. Commands	
Recommended literature:	
Course language:	
Notes:	

Course assessment Total number of assessed students: 151	
abs	n
45.03	54.97
Provides: Mgr. Peter Bakalár, PhD.	
Date of last modification: 18.03.2019	
Approved: prof. RNDr. Juraj Černák, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SMCH/03	**Course name:** Supramolecular chemistry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1., 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Presentation of a chosen topic.
Final written exam.

Learning outcomes:

Brief outline of the course:

Recommended literature:
1. Lecture handouts can be found at http://lms.upjs.sk/course/view.php?id=385
2. J.W.Steed and J.L.Atwood, Supramolecular chemistry, Wiley : Chichester, 2000.
3. F.Vogtle, Supramolecular chemistry: an introduction, Wiley : Chichester, 1991.

Course language:

Notes:

Course assessment
Total number of assessed students: 67

A	B	C	D	E	FX
62.69	22.39	11.94	1.49	1.49	0.0

Provides: RNDr. Martin Walko, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ KP/12	**Course name:** Survival Course
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 36s **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion: Conditions for course completion: Attendance Final assessment: continuous fulfilment of all tasks within the course	
Learning outcomes: Learning outcomes: Students will be familiarized with principles of safe stay and movement in extreme natural conditions as they will obtain theoretical knowledge and practical skills to solve the extraordinary and demanding situations connected with survival and minimization of damage to health. The course develops team work and students will learn how to manage and face the situations that require overcoming of obstacles.	
Brief outline of the course: Brief outline of the course: Lectures: 1. Principles of behaviour and safety for movement and stay in unknown mountains 2. Preparation and leadership of tour 3. Objective and subjective danger in mountains 4. Principles of hygiene and prevention of damage to health in extreme conditions Exercises: 1. Movement in terrain, orientation and navigation in terrain (compasses, GPS) 2. Preparation of improvised overnight stay 3. Water treatment and food preparation.	
Recommended literature:	
Course language:	
Notes:	

Course assessment Total number of assessed students: 392	
abs	n
44.39	55.61
Provides: Mgr. Marek Valanský, MUDr. Peter Dombrovský	
Date of last modification: 15.03.2019	
Approved: prof. RNDr. Juraj Černák, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/UPR/03	**Course name:** The Art of Aiding by Verbal Exchange

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
85.71	4.08	2.04	2.04	2.04	4.08

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 18.03.2019

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ TA1/03	**Course name:** Thermal Analysis

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Goal of the course is to provide the students with a knowledge of experimental thermoanalytical techniques, the use of thermoanalytic methods for characterization of inorganic and organic compounds and reaction kinetics.

Brief outline of the course:
Introduction, experimental thermoanalytical techniques (thermogravimetric analysis, differential thermal analysis, thermomagnetic techniques, thermodilatometric analysis, high temperature reflectance spectroscopy). The use of thermoanalytic methods for characterization of inorganic and organic compounds, materials and pharmaceutical substances. Reaction kinetics.

Recommended literature:
Wendlandt, W. W.: Thermal Methods of Analysis, 2. vydanie, New York, 1985.
Schultze, D.: Differentialthermoanalyse, VEB Deutsch Verlag Wissenschaften, Berlin, 1969.
Heide, K.: Dynamische thermische Analysenmethoden, VEB Deutsch Verlag Wissenschaften, Leipzig, 1979.

Course language:

Notes:

Course assessment
Total number of assessed students: 65

A	B	C	D	E	FX	N	P
53.85	20.0	12.31	1.54	1.54	0.0	0.0	10.77

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VES/03	**Course name:** Vibrational and electronic spectroscopy

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 71

A	B	C	D	E	FX
60.56	15.49	11.27	7.04	4.23	1.41

Provides: doc. RNDr. Juraj Kuchár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ ZKLS//13	**Course name:** Winter Ski Training Course
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 97	

abs	n
32.99	67.01

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Marek Valanský
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.